UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,834	07/19/2006	Matthew Conrad Fellers	DOL12401 US	8900

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EXAMINER
HE, JIALONG

ART UNIT	PAPER NUMBER
2626	

NOTIFICATION DATE	DELIVERY MODE
02/26/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<table>
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10/586,834</td><td>Applicant(s)
FELLERS ET AL.</td><td></td></tr>
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JIALONG HE</td><td>Art Unit
2626</td><td></td></tr>
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 0209*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6, 8-15, 17-24 and 26-36* is/are rejected.

7)☒ Claim(s) *7,16 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

Information Disclosure Statement

2.   The information disclosure statement (IDS) submitted on 12/22/2009 is in

compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure

statement is being considered by the examiner.

Response to Arguments

3.   Applicant's arguments filed on 12/22/2009 have been fully considered but they

are not persuasive for the following reasons.

        The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give claims their broadest reasonable interpretation in light of

the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023,

1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the

claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541,

550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The

Examiner has full latitude to interpret each claim in the broadest reasonable sense. The

Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in

meaning.

Regarding claim 1, the applicants first argue (Remarks, pages 13-14) that Youn

does not disclose or suggest the claimed measures of quality and therefore does not

disclose or suggest step (b). The applicants further argues the disclosed measurements

such as "distortion level", "perceptual entropy" and "energy" are not measure of quality.

In response, the Examiner notes that the claim 1 only recites "<u>obtaining two or

more measures of quality</u>" without saying how quality is measured and what calculation

is used. Since "measures of quality" is just a name of measurement, the Examiner gives

the term a broadest reasonable interpretation in light of the supporting disclosure. The

Applicants also admitted that a wide variety of quality measures may be used

(**Specification, page 7, at the top**). Therefore, the all disclosed measurements

(including "distortion level", "perceptual entropy" and "energy") read on the term

"measures of quality".

The applicants further argue (Remarks, page 15) that even such measures were

disclosed, they are not used to identify a selected set of groups as claimed.

Furthermore, neither section of the cited text discusses identifying a set having a

minimum number of groups meeting the specified criteria as claimed.

In response, the Examiner notes Youn clearly discloses energy is used to identify a selected set of groups (**col. 7, line 64- col. 10, line 45, fig. 6-9**). Again, the claim does not recite how the "measure of processing performance" is calculated. The term "measure of processing performance" is just a name of measurement. Youn discloses using a proper grouping to prevent degradation of sound quality (**col. 8, lines 55-60, sound quality is a measure of processing performance, sound quality reads on measure of processing performance**). Youn also discloses using two preliminary groups if possible (**col. 8, lines 37-67, fig. 6, using two groups - a set of groups having minimum number of groups**).

Regarding claim 2, the applicants argue (Remarks, page 15) Youn does not show "how blocks of time-domain samples are processed as claimed".

The Examiner points out that claim 2 only recites "the block comprises time-domain samples of audio information". Nothing about "how blocks of time-domain samples are processed" is claimed.

Regarding claim 5, the applicants argue (Remarks, page 15-16) that the Examiner relied on "side information" to read on the term "measure of cost". Youn does not disclose or suggest any side information that is affiliated with each set of groups of blocks that are used to control grouping as required by the claim. The applicants also

argue Youn does not teach how to use the cost of this side information to control the grouping of blocks.

In response, the Examiner notes that the claim 5 only recites "measure of cost" without saying how the measure of cost is calculated. The term "measure of cost" is just a name of measurement. The claim just recites "<u>measure of cost affiliated with a set of groups of blocks</u>" without saying how the measure is affiliated with a set of groups. If anything is related to a set of groups, it is "affiliated" with the set of groups. Since Youn discloses to group blocks into groups to share side information (e.g., scale factor), side information is affiliated with a set of groups of blocks.

Regarding claim 6, the applicants argue (Remarks, page 16) the process in Fig. 9 differs from what is claimed in at least two respects: First, it is not performed iteratively. Second, it does not analyze any measure of quality.

In response, the Examiner notes that Youn discloses the procedure of analyzing and determining how to group blocks is repeated (iteratively) for every speech frame (col. 3, lines 48-63, col. 5, lines 32-62). In the analyzing procedure, "distortion level", "perceptual entropy" and "energy" (measure of quality) are calculated (analyzed).

Regarding claim 8, the applicants argue (Remarks, page 16) that Youn never discloses or suggests determining or calculating amounts of side information; therefore,

we disagree that the side information in Youn is used as a <u>measure</u> of cost (emphasis in Remarks).

In response, the Examiner notes that as "measure of cost" is just a measurement (a value). The claim does not recite how to calculate the measure of cost. The claim only broadly recites "<u>the measures of cost are responsive to amounts of data needed to represent the control parameters in the encoded signal</u>". Since side information obtained from speech signal and is related to encoding parameters, therefore, the side information is responsive to amount of encoded data.

Regarding claim 9, the applicants said (Remarks, page 16) they did not understand Examiner's explanation. The Examiner notes that claim 9 only recites "<u>the measures of cost **are responsive to** amounts of computational resources needed to process the blocks of audio information</u>". Computational resources can be anything such as available RAM, ROM, disk space, CPU time. Calculating the side information for different frames needs different amount of CPU time or memory. In other words, Calculating the side information is related to the available of CPU time and memory.

Arguments regarding to Akagiri (US Pat. 6,456,963, applicant's IDS) have been considered but are moot because Akagiri is no longer used.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

5.   Claim rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the

written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in

the relevant art that the inventor(s), at the time the application was filed, had possession

of the claimed invention.

Regarding new claims 28, 31 and 34, the applicants do not pointed out where the

new claims are supported. MPEP (2163.06) states applicant should specifically point

out the support for any amendments made to the disclosure. By looking at the

specification carefully, it appears the most relevant part is in specification (page 9)

which states "a sum of the distortions of all blocks in the frame that is **not higher than a**

threshold T". It does not support the claim limitation "the measure of processing

performance that is **higher than the threshold**".

Regarding claims 30, 33 and 36, the applicants also do not pointed out where the

new claims are supported. The most relevant part in specification (page 6) states "A

tradeoff may be made between the degree of minimization and either or both of the total

number of bits used to represent a frame of an encoded signal and the computational

complexity of the technique used to optimize the group arrangements". The above

disclosure does not provide a clear support to the limitation recited in claims 30, 33 and

36.

Claim Rejections - 35 USC § 102

1.   Claims 1-6, 8-15, 17-24, 26-30, 33 and 36 are rejected under 35 U.S.C. 102(e)

as being anticipated by Youn (US Pat. 7,283,968, previously cited, hereinafter referred

to as Youn).

Regarding claims 1, 10 and 19, Youn discloses a method, apparatus and

medium (**col. 11, lines 10-12, computer readable medium**) for processing blocks of

audio information arranged in frames, each block having content representing a

respective time interval of audio information (**Youn's method is about AAC coding in**

which audio information is arranged in frames and blocks), wherein the method

comprises:

(a) receiving an input signal conveying the blocks of audio information (**col. 2,**

lines 23-25, a short window type, 8 successive blocks);

(b) obtaining two or more measures of quality (**col. 2, line 6, distortion level for**

the frame, line 11, perceptual entropy) such that: (1) each set in a plurality of sets of

groups of the blocks in a respective frame has an associated measure of quality (**col. 8,**

line 12-14, the type of a short window is determined based on the energy

associated with this window), (2) each group has one or more blocks (**col. 2, lines**

27-28, each group includes one or more successive short windows (blocks**)), (3)**

each set of groups includes all blocks in the respective frame and no block is included in

more than one group in each set (**fig. 10**), and (4) the measure of quality represents

excellence in results obtainable by processing each block in a respective group

according to an associated set of one or more control parameters (**col. 8, lines 62-65,**

the final grouping is done in such a way as to have a group number (one or more

control parameters) **that enable balance between the coding efficiency and the**

sound quality);

      (c) analyzing the measures of quality to identify a selected set of groups having a

minimum number of groups such that a measure of processing performance obtained at

least in part from the associated measure of quality is higher than a threshold (**col. 7,**

lines 33-39, col. 8, lines 43-58); and

      (d) processing each group of blocks in the selected set of groups according to

the associated set of one or more control parameters to generate an output signal

representing contents of the input signal and representing the associated set of control

parameters for each group in the selected set (**fig. 6 and 9 and associate disclosure**).

      Regarding claims 2, 11 and 20, Youn further discloses the blocks comprise time-

domain samples of audio information (**col. 2, line 2 the time-domain audio data**).

Regarding claims 3, 12 and 21, Youn further discloses the blocks comprise frequency-domain coefficients of audio information (**col. 1, line 47-48, the audio signal is mapped into the frequency domain**).

Regarding claims 4, 13 and 22, Youn further discloses at least one pair of blocks in the groups having more than one block have content representing audio information in time intervals that are adjacent to one another or overlap one another (**col. 2, each group includes one or more successive short windows (**adjacent**), also fig. 10**).

Regarding claims 5, 14 and 23, Youn further discloses obtaining two or more measures of cost, each measure of cost affiliated with a set of groups of blocks, wherein the measure of cost represents an amount of resources needed to process the blocks in the affiliated set according to the associated set of control parameters; wherein the measure of processing performance is obtained in part from the measure of cost affiliated with the selected set (**col. 7, line 64 - col. 8, line 59, side information** (measures of cost)).

Regarding claims 6, 15 and 24, Youn further discloses the analyzing is performed in one or more iterations of an iterative process to determine one or more sets of groups that are not candidates for the selected set and excludes analyzing these one or more sets in subsequent iterations of the process (**fig. 9 and associated disclosure**).

Regarding claims 8, 17 and 26, Youn further discloses the measures of cost are responsive to amounts of data needed to represent the sets of control parameters in the encoded signal (**col. 4, lines 3-4, side information** (the measures of cost) **depends on the number of groups** (control parameters)).

Regarding claims 9, 18 and 27, Youn further discloses the measures of cost are responsive to amounts of computational resources needed to process the blocks of audio information (**col. 4, lines 3-4, the amount of side information** (the measures of cost) **associated with short window, the scalefactor for which is the same, different block grouping schemes generate different coding bit streams** (amounts of computational resources needed)**, therefore diffident side information)**.

Regarding new claims 30, 33 and 36, Youn further discloses the measure of processing performance is responsive to a total number of bits available to represent a respective frame of blocks (**col. 4, lines 20-30, scale factor is depends on available bits**).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

7.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

8.   Claims 29, 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Youn in view of Herre et al. (US Pat. 6,424,939).

        Regarding new claims 29, 32 and 35, Youn discloses grouping is determined

based on energy associated with each short window (Youn, col. 4, lines 57-64). Youn

fails to disclose error energy between the spectral coefficients.

        Herre discloses error energy in the decoded spectral coefficients (**Herre, col. 5,**

lines 55-65). Youn and Herre are analogous art and from a similar field of applicant's

endeavor in speech coding.

        It would have been obvious to one of ordinary still in the art at the time of the

invention was made to substitute energy with error energy as taught by Herre since

each individual element and its function are shown in the prior art and one of ordinary

skill in the art could have substituted one known element for another by known methods. Youn does no more than "Simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement." KSR, 550 U.S. ___, 82 USPQ2d at 1395 (2007). One of ordinary skill in the art would have recognized that the results of the simple substitution were predictable.

Allowable Subject Matter

9.   Claims 7, 16 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10.   The following is a statement of reasons for the indication of allowable subject matter:

       Applicants' arguments regarding claim 7 (Remarks, page 16) is persuasive. Prior art of record, either alone or in combination, does not teach or suggest, inter alia, the limitations recited in claim 7, therefore, fails to anticipate or render obvious the claimed invention. Claims 16 and 25 recite similar features as in claim 7. Therefore, claims 16 and 25 are allowable.

Conclusion

11.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JIALONG HE whose telephone number is (571)270-

5359. The examiner can normally be reached on Monday-Thursday, 7:00 - 4:30, Alt

Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JH/

/Richemond Dorvil/
Supervisory Patent Examiner, Art Unit 2626